Claims Avoidance: An Integrated Program Management Perspective

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Introduction

What is a claims avoidance review, constructability review, or biddability review? How are they related? The precise definitions are not critical; what's important is that the concepts are implemented appropriately for each project or program. In this paper, we address these types of reviews in detail. More importantly, we propose an overarching philosophy that recommends integrating the thought processes related to the reviews into the owner's program management system. In the figures below, we also show two other types of reviews, Value Engineering and Operability/Maintainability reviews, which we will not address in this paper but which are included in the figures for completeness. All five reviews overlap and are interrelated. Figure 1 – "Integrated Program Management Perspective" illustrates that these reviews, if properly implemented, are mechanisms to achieve an integrated program management perspective.

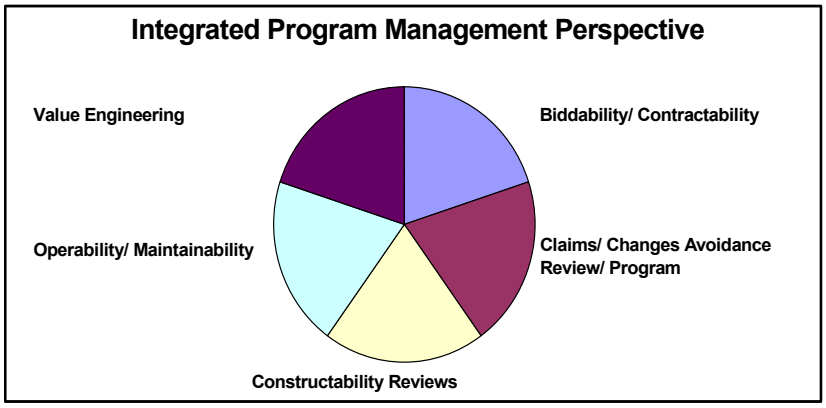

Figure 1

Experts have stated that 75% of the problems encountered in the field are generated in the design phase [1]. As a result, it is important that Owners develop and implement a systematic review process of their projects to minimize potential problems before they occur. Although the highlighted reviews focus on slightly different aspects of a construction project, they all are geared towards identifying and minimizing potential problems during the design and bidding phases of a project.

Applicability and Importance

At the most fundamental level, all participants in a construction program want to save time and money. Claims and changes caused by lack of coordination among the various players and competing perspectives cost time and money. Claims and changes even cost contractors money and therefore contractors also would benefit from reduced claims and changes. The need for the concepts proposed herein also results from the industry structural perspective. Our thesis and our experience are that many claims and changes are caused by the separation of the design, procurement and construction processes. This separation results in parochial viewpoints, which can be not only situational but also career-long as it is common for individuals working in one part of the

[1] "The Constructability Review Process: A Constructor's Perspective" by Roy Mendelsohn

industry to remain there for their entire careers. This occurs not only among designers and builders, but on owner staffs as well. These parochial viewpoints lead to a lack of global or integrated perspective on the project delivery process. To put it another way, it results in a lack of effective *program* management wherein participants would ideally make all decisions with the overall good of the project in mind.

A closely related phenomenon is that designers want to design and builders want to build and both sometimes have a lack of understanding (or a lack of interest) in some of the commercial aspects of project management, such as. schedule management, claims and changes management, and alternate project delivery systems.

Current Trends

The increased emphasis on speed of project delivery in today's competitive economy tends to exacerbate any lack of coordination or other communication flaws in the project delivery process. Similarly, the increased complexity of construction projects, which results from the increased use of technology ("smart" highways and buildings), a demanding regulatory environment and increased competitiveness in client industries, will magnify project delivery inefficiencies.

In an effort to attack some of these issues, the industry is making increased use of alternate project delivery systems, e.g. design-build, program management, and design-build-operate, which are all attempts to better integrate the roles and perspectives in the construction process. The increased use of alternate dispute resolution techniques is an attempt to improve the recovery that is required after a project has already gone off-track and is therefore indicative of the need for project delivery improvements. This paper should be viewed as offering some additional tools and a philosophy that will complement these other program management improvements.

Philosophy of Approach

In order to help avoid the problems described above, we recommend fully integrating the design, construction and related commercial processes, along with operation and maintenance. A program manager must strive to ensure that key decisions are made from the "big picture" viewpoint. This can be done to some extent through the use of alternate project delivery systems, such as. design-build, program management, and design-build-operate. But whether one uses a traditional process or some of the newer variants, there is still a need to build-in procedures that facilitate the integration of the design, construction and related commercial processes. The program manager must incorporate time into the master or program schedule to explicitly allow for integrative activities such as claims avoidance, constructability, and biddability programs. Also, the program schedule should appropriately balance the time needs of design, procurement and construction. Schedule related recommendations are discussed in more detail below.

These reviews are not just onetime tasks to be performed once during the project life-cycle but are part of a mindset and a philosophy that must extend throughout the project life-cycle. Again we show Value Engineering and Operability/Maintainability reviews, which are not specifically addressed herein, because we feel that they are important ingredients in the integrated approach to program management. Our focus is claims avoidance, constructability, and biddability reviews. Although we call them reviews, they are not just reviews, but continuous programs.

Constructability Review: Traditional Version

A Constructibility review is defined as the optimum use of construction knowledge and expertise in planning, design, procurement and field operations to achieve overall project objectives [2]. Constructability reviews typically incorporate construction expertise into the design process so that it will meet the design requirements, including aesthetics, at the lowest reasonable cost of construction. They should be performed by a "Construction Expert", an individual (or individuals), who has knowledge in several fields and has empathy with both the designer and contractor. Additionally, this "Construction Expert" should have no ties to the designer and therefore can offer unbiased advice and suggestions.

Constructibility reviews encompass the compatibility of a design with the site, types and availability of materials, and methods and techniques of construction. Additionally, constructability reviews evaluate schedules, availability of labor, field conditions, construction staging and ease of construction, enhancement of contractor productivity, recognition of potential site problems, and trade-offs between standard on-the-shelf items versus one-of-a-kind or specially fabricated components. Lastly they look at project job-site safety, maintainability, and operability.

The constructability review looks at the bidding documents from the perspective of a constructor. The focus is on trade and discipline interfaces; a comparison of drawings and specification requirements; an analysis of the general conditions and requirements; and whether there is sufficient information in the documents to bid and build the project. They attempt to apply a contractor's viewpoint to the bidding documents [3] .

Constructability Review: Program Planning Stage

The authors advocate constructability review involvement at the earliest stages of program planning. Four areas can pay particular dividends: regional consideration, project delivery method, work packaging and preliminary design. Review may go several miles beyond the environs of the project and examine potential access problems for large equipment, availability of labor and materials, union's considerations, skills availability and training resources.

The delivery approach of a construction project has enormous economic and schedule effects. Many firms are used to delivering projects in one or two particular styles (e.g. design-bid-build). The delivery process may have components of several distinct delivery styles. The process by which the project will be delivered affects how each contracting party will be motivated and how accessible information will be.

If the project is anything other than a single bid, early thought regarding the structure of the work packages can pay enormous dividends. Work-package decisions should be tested and validated within the market place before proceeding through design development. Each individual construction market area has particular traditions about what sorts of firms or trades perform certain types of work. Document should be tested for double coverage and for scopes that are not covered. Contingency funds should be set aside for any cost items that arise due to scope ambiguity or gaps.

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[2] Construction Industry Institute "Constructability, A Primer"; Publication No. 3-1 July 1986
[3] "Constructability in the Design Firm" by James A. Young, III, CCC

Biddability Review

A Biddability Review pertains to the sufficiency and accuracy of details as described in the Contract drawings and specifications. The biddability review needs to be completed late enough in the design stage to ensure sufficient material is available for review, but early enough in the contract formation stage to ensure that there is sufficient time available to correct identified problems without delaying the overall project schedule. Biddability reviews should be performed by a "Project Management Specialist", an individual (or individuals), who understands contract administration and the effects of changes, claims and disputes [4] . If the biddability review is not being performed in conjunction with a constructability review then the Project Management Specialist should also have a technical background.

It is important to note that the biddability review is NOT a design critique. However, it does focus on ensuring that the bidding package is free of significant design errors, omissions, and ambiguities. It looks at the completeness of the contract documents, not at design concepts, and relates to the effective communication of engineering information. The whole focus of this type of review is to reduce the potential for disputes and delays to contractor operations resulting from such disputes.

Biddability reviews look for the inclusion of appropriate subsurface disclaimers, schedule provisions for float and bar to time extensions, dispute clause, material/equipment substitutions provisions, bid dispute provisions, and order of precedence language. Additionally, this type of review will look at bide items (any missing, incorrect, misleading or unnecessary bid items, any double payment of work, incorrect quantities and bid item numbers, and incorrect cross references), how variations for estimated quantities are handled, how defective work is handled and what hazardous material requirements are included (required contractor qualifications).

Claims Avoidance Review

A Claims Avoidance Review is "a systematic review of design and contract documents that focuses on identifying areas susceptible to changes, claims and disputes" [5] . The purpose of this review is to look at bidding documents from the perspective of a "Claims Artist". It focuses on trade and discipline interfaces, a comparison of drawings and specification requirements; an analysis of the general conditions and requirements; and whether there is sufficient information in the documents to bid and build the project. This review critiques the constructability and biddability of the contract documents with the intent to minimize the number and magnitude of changes, disputes, cost overruns and delays during construction. As such, there is considerable overlap between a claims avoidance review and the constructability and biddability reviews. The perspective of a claims avoidance review is broader but focuses on problems in the contract documents that are known to lead to claims.

The Claims Avoidance Review should be performed when there is sufficient time available to recycle design and bid documents without delaying the master schedule. In a Claims Avoidance Review program a review of design documents should occur at the 60 – 70% and the 90-95% stages and a review of the bid documents should occur several weeks before solicitation of bids.

Like the biddability review, a "Project Management Specialist" – An individual (or individuals) who understands contract administration and the effects of changes, claims, and disputes, should perform

[4] [5] "Innovative Claims and Disputes Avoidance" by Dr. Gui Ponce de Leon, P.E., Timothy C. McManus and Jerry Klanac – Hazardous Waste Cost Control, 1993

the claims avoidance review. And if not performed with a constructability review then the Project Management Specialist should have a technical background. The Claims Avoidance Review will look at both the design documents and the bid documents. When reviewing the design documents the reviewer will focus on the content and the implied instructions given to the contractor. When reviewing the bid documents the reviewer will focus on the plans, specifications, contract language and special instructions to bidders, with special emphasis on ambiguities, inconsistencies and insufficient information.

The design document review phase will focus on:

- Availability of specific equipment / proprietary specifications
- Track record of recent similar designs for claims, changes and disputes
- Relevance and completeness of site investigation data
- Crosscheck references to identify errors and inconsistencies
- Check references to code requirement to ensure referenced code is current

The bid document review phase will focus on:

- Appropriate disclaimers regarding subsurface conditions
- Completeness of schedule provisions and requirements
- Applicability and reliance on estimated quantities
- Dispute resolution requirements
- Order of precedence
- Stipulated contract period and level of liquidated damages
- Milestones for Contract Award dates and interim milestones
- Construction phasing and sequencing
- Durations for owner, designer, and third party activities during construction
- Language with multiple interpretations
- Access restraints and constraints
- System coordination errors
- Delineation and clarity of Pay items
- Site logistics and mitigation requirements
- Clear definition of substantial and final completion

Conclusion

Improving information availability and understandability requires additional engineering time but is likely to decrease the potential for delays, increase the familiarity of technical information, decrease the interdependency of technical information, and decrease the likelihood of material tie-in problems. Thus the owners who are willing to spend additional monies at the beginning of the project for additional engineering and review programs reap the benefits

Implementing claims avoidance, constructability, and biddability reviews with full management support and emphasis is a significant step toward achieving an integrated program management perspective. The combination of these reviews, using people with the right experience and knowledge, is an opportunity to counteract the traditional separation of the design, procurement and construction functions in the construction industry. And from a broader perspective, a program manager will be well served by adopting an overarching philosophy or mindset that focuses on integrating all of the players in the construction process.